

INSECTS ASSOCIATED WITH FLOWERING BLOODROOT, *SANGUINARIA CANADENSIS* L., AT FANSHAWE LAKE, ONTARIO¹

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ABSTRACT: Insects in Hemiptera, Coleoptera, Diptera and Hymenoptera were collected from flowering bloodroot, *Sanguinaria canadensis* L., at Fanshawe Lake, Ontario in April, 1975. The most prevalent pollinators (83%) were bees in Andrenidae, Halictidae, and Apidae.

DESCRIPTORS: Hemiptera, Coleoptera, Diptera, Hymenoptera, Fanshawe Lake, Ontario, Bloodroot flowers.

Fanshawe Lake is an artificial lake, a few miles northeast of London, produced by the building of Fanshawe Dam on the North Branch of the Thames River in London and West Nissouri Townships, Middlesex County, Ontario, Canada (Fig. 1). In an earlier account (Judd, 1961) the association of insects and other invertebrates with flowering skunk cabbage, *Symplocarpus foetidus* (L.) Nutt., on the north shore of the Lake was described. In April, 1975 a study was made of the insects found at flowers of bloodroot, *Sanguinaria canadensis* L.

At its north end Fanshawe Lake is bordered by an abrupt clay cliff rising to a crest 900 feet above sea level. Along this crest are deciduous woods. In openings in these woods grows the bloodroot. Insects were collected from the flowers on April 30, 1975, a day of clear skies with a light southerly breeze. The temperature at 9:30 a.m. was 10°C and rose to its maximum for the day of 21°C by 1.00 p.m. At 10.00 a.m. all the flowers of bloodroot were still closed. At 10.30 a.m. they began to open, when the first insect, a bee, was collected from a flower. By 11.00 a.m. all flowers were open to the sun with their petals extended horizontally. From 10.30 a.m. to 2.00 p.m. insects were collected from the flowers by netting, by use of an aspirator or by clapping them between the lid and jar of a cyanide jar.

The insects were pinned and labelled and sent to the Biosystematics Research Institute, Agriculture Canada, Ottawa where they were identified by the following taxonomists: D. E. Bright (Curculionidae), J. M. Campbell (Oedemeridae), Bruce Cooper (Calliphoridae), G. Gibson (Andrenidae, Apidae, Halictidae, Tenthredinidae), L. A. Kelton (Miridae), W. R. M. Mason

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(Pompilidae), J. F. McAlpine (Milichiidae), J. McNamara (Coccinellidae), J. R. Vockeroth (Muscidae, Syrphidae). All specimens are deposited in the collection of the Department of Zoology, University of Western Ontario except the sawfly, *Dolerus* sp., kept in the National Collection, Ottawa.

ACCOUNT OF INSECTS COLLECTED

Hemiptera

Miridae

Lygus lineolaris (Beauv.) - 2 bugs. This insect hibernates and appears on flowers in spring, e.g. on dandelions (Judd, 1971) and wild carrot (Judd, 1970).

Coleoptera

Oedemeridae

Asclera ruficollis Say - 2 beetles. Adults of this species visit flowers where they feed on nectar and pollen (Arnett, 1968). It is common on willow catkins in early spring and is found on other spring-blooming flowers (Dillon and Dillon, 1961).

Coccinellidae

Coleomegilla maculata lengi Timb. - 2 beetles. This is a common polyphagous species (Hodek, 1973) that occurs on plants in spring, e. g. dandelions (Judd, 1971) and wild carrot (Judd, 1970).

Curculionidae

Hypera postica (Gyll.) - 1 weevil. This weevil (*Phytonomus posticus* Gyll.) occurs on various plants, specially *Medicago*, alfalfa (Titus, 1911).

Diptera

Milichiidae

Madiza glabra Fallen - 1 fly. This species occurs across Canada from British Columbia to Nova Scotia (Stone *et al.*, 1965).

Syrphidae

Helophilus fasciatus Walk. - 1 ♂

Syrphus torvus O.S. - 1 ♀

Sphaerophoria sp. - 1 ♀

Eristalis dimidiata Wied. - 1 ♂

Flies of this family are habitual visitors at flowers (Stone *et al.*, 1965). *E. dimidiata* was found on skunk cabbage at Fanshawe Lake (Judd, 1961).

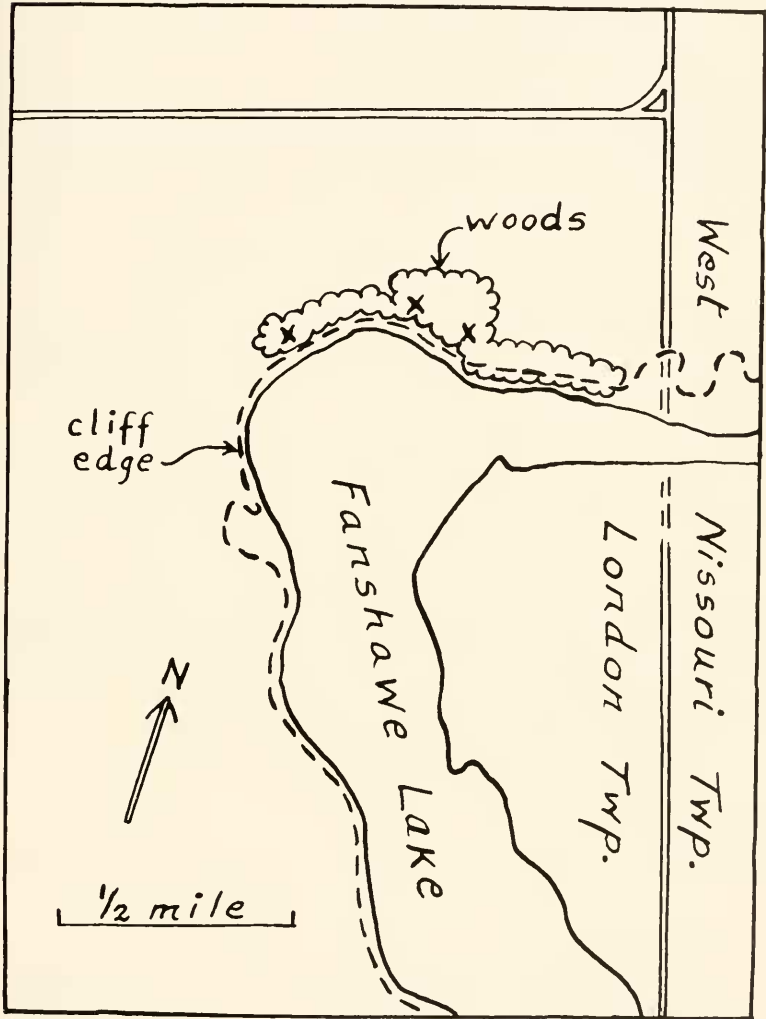


Fig. 1 - Map of Fanshawe Lake, Ontario showing location of bloodroot flowers (X)

Calliphoridae

Pollenia rudis (Fab.) - 1 fly. The cluster fly is a common visitor at flowers, e.g. boneset (Judd, 1969) and wild carrot (Judd, 1970).

Muscidae

Musca autumnalis Deg. - 2 ♂♂. The facefly hibernates and occurs on flowers in spring, e.g. marsh marigold (Judd, 1964), boneset (Judd, 1969) and wild carrot (Judd, 1970).

Orthellia caesarion (Mg.) - 1 ♀. This fly is common over much of North America (Stone *et al.*, 1965). It was found previously at London in 1953, mainly in swampy areas (Judd, 1956).

Hymenoptera

Tenthredinidae

Dolerus sp. - 1 sawfly. G. Gibson, in identifying the specimen, expressed the opinion that it represents a new species. The genus includes sawflies that feed on grasses and sedges (Muesebeck *et al.*, 1951).

Pompilidae

Priocnemis cornica Say - 1 wasp. This wasp occurs in eastern Canada and preys on small spiders (Muesebeck *et al.*, 1951).

Andrenidae

Andrena (Bythandrena) carlini carlini Cockerell - 9 bees. This bee has been found previously in the vicinity of London on flowers of leatherleaf (Judd, 1966a) and blueberry (Judd, 1966b).

Andrena miserabilis bipunctata Cresson - 16 bees. This bee has been found previously in the vicinity of London on flowering marsh marigold (Judd, 1964).

Andrena sp. - 43 bees.

Halictidae

Lasioglossum (Dialictus) sp. - 10 bees.

Lasioglossum (Evyllaes) sp. - 3 bees.

Apidae

Nomada sp. - 6 bees.

Ceratina sp. - 2 bees.

Apis mellifera L. - 4 bees. Honeybees were found at Fanshawe Lake on flowers of skunk cabbage (Judd, 1961).

Of the 111 insects collected from the flowers 93 (83%) were bees (Andrenidae, Halictidae, Apidae). They were moving actively among the flowers and were well dusted with pollen and thus were the main pollinators of the bloodroot.

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